



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/726,087 | 11/29/2000 | David L. Rhodes | 486.1001 | 9659 |

7590 02/23/2005
DAVIDSON, DAVIDSON & KAPPEL, LLC
485 SEVENTH AVENUE
14TH FLOOR
New York, NY 10018

EXAMINER

JACOBS, LASHONDA T

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2157

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,087

Applicant(s)

RHODES, DAVID L.

Examiner

LaShonda T Jacobs

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This is a Final Office Action in response to Applicant's Amendment and Request for Reconsideration filed on October 4, 2004. Claims 1-75 are presented for further examination.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16, 24-28, 30-56, 64 and 66-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templin et al (hereinafter, "Templin", 5,781,550).

As per claim 1, Templin discloses a network of hosts constructed and arranged for the transfer of digital information between the hosts comprising:

- a source host (col. 3, lines 65-67 and col. 4, lines 1-9);
- a destination host (col. 3, lines 65-67 and col. 4, lines 1-9); and
- a collaborating host (gateway) (col. 3, lines 65-67 and col. 4, lines 1-9).

However, Templin does not explicitly disclose:

- a management object constructed and arranged to facilitate collaboration between the source host and the collaborating host in transferring data between the source host and the destination host, wherein the source host provides necessary control information and/or message contents when there is a need based on network information, and the

collaborating host sends the data to the destination host in such a way as to make the destination host believe the data is from the source host

Templin discloses a gateway that intercepts a packet destined for host C from host A. The gateway generates a new packet and sends it to host in which host C believes it is communicating with host A (col. 8, lines 37-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a management object to transfer data between the source host and destination host in such way as to make the destination host believe the data is from the source host in order to provide a secure network because this would allow the hosts to communicate and exchange information, thereby providing a strong security within the network.

As per claim 53, Templin disclose a method of communicating over a network comprising the steps of:

- obtaining network information (col. 5, lines 25-33); and
- sending data intended for a destination host, from a source host to a collaborating host as a function of the network information (col. 8, lines 37-54).

However, Templin does not explicitly discloses:

- facilitating collaboration between the source host and the collaborating host; and
- sending the data to the destination host from the collaborating host so that the destination host believes the data came from the source host.

Templin discloses a gateway that intercepts a packet destined for host C from host A. The gateway generates a new packet and sends it to host in which host C believes it is communicating with host A (col. 8, lines 37-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a management object to transfer data between the source host and destination host in such way as to make the destination host believe the data is from the source host in order to provide a secure network because this would allow the hosts to communicate and exchange information, thereby providing a strong security within the network.

As per claim 2, Templin discloses:

- wherein a series of collaborating hosts are used in delivery of particular packets (col. 8, lines 9-36).

As per claim 3, Templin discloses:

- wherein the masquerading hosts are simple hardware elements (col. 5, lines 25-33, lines 60-67 and col. 6, lines 1-4).

As per claims 4 and 73, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the management object is executable to facilitate collaboration by forwarding the data, with identity information of the source host, to the collaborating hosts.

Templin discloses a gateway that intercepts a packet destined for host C from host A. The gateway generates a new packet and sends it to host in which host C believes it is communicating with host A (col. 8, lines 37-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a management object to transfer data between the source host and destination host in such way as to make the destination host believe the data is from the source

Art Unit: 2157

host in order to provide a secure network because this would allow the hosts to communicate and exchange information, thereby providing a strong security within the network.

As per claims 5 and 74, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the management object is executable to facilitate collaboration by causing the collaborating host to access the source host and obtain the data and identity-verification information of the source.

Templin discloses a gateway that intercepts a packet destined for host C from host A. The gateway generates a new packet and sends it to host in which host C believes it is communicating with host A (col. 5, lines 60-67, col. 6, lines 1-4 and col. 8, lines 37-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a management object to transfer data between the source host and destination host in such way as to make the destination host believe the data is from the source host in order to provide a secure network because this would allow the hosts to communicate and exchange information, thereby providing a strong security within the network.

As per claims 6 and 75, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the management object is executable to facilitate collaboration by making multiple copies of the data available so that the collaborating host has an available copy of the data.

Templin discloses a gateway that intercepts a packet destined for host C from host A. The gateway generates a new packet and sends it to host in which host C believes it is communicating with host A (col. 5, lines 60-67, col. 6, lines 1-4 and col. 8, lines 37-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a management object to transfer data between the source host and destination host in such way as to make the destination host believe the data is from the source host in order to provide a secure network because this would allow the hosts to communicate and exchange information, thereby providing a strong security within the network.

As per claim 7, Templin discloses:

- wherein the source host, the destination host and the collaborating host form a rim of hosts (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claim 54, Templin further discloses:

- the step of providing a rim of hosts (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claims 8 and 55, Templin discloses:

- wherein the rim of hosts is fixed (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claim 9, Templin discloses:

- wherein the rim of hosts is dynamic and changes the direction of the management object (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claims 10 and 56, Templin discloses:

- wherein the rim of hosts is dynamic rim of hosts changes as a function of the network information (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claims 11 and 47, Templin further discloses:

Art Unit: 2157

- dedicated network resources for communication between the source host and the collaborating host (col. 8, lines 37-54).

As per claims **12** and **48**, Templin further discloses:

- dedicated network resources for communication between the collaborating host and the destination host (col. 8, lines 37-54).

As per claim **13**, Templin discloses:

- wherein the data is transmitted in packet form wherein a packet contains source identifying information (col. 4, lines 10-20).

As per claim **14**, Templin discloses:

- wherein the packet is encapsulated by the source host for transmission to the collaborating host, and the collaborating host performs de-packaging of the packet for transmission to the destination host (col. 8, lines 37-54).

As per claim **15**, Templin discloses:

- wherein the destination host identifies incoming packets by the source identifying information (col. 4, lines 10-20).

As per claim **16**, Templin discloses:

- wherein the source identifying information is maintained when collaborating hosts sends the data to the destination host so that when the destination host reads the source identifying information, the source identifying information informs the destination host that the source identifying information informs the destination host that the source host sent the data (col. 4, lines 10-20 and col. 8, lines 37-54).

As per claim **24**, Templin discloses:

Art Unit: 2157

- wherein the management object uses network resources for computation and communication (col. 5, lines 25-33).

As per claim **25**, Templin discloses:

- wherein the management object resides on an outside controller (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claims **26** and **46**, Templin discloses:

- wherein the management object is divided into a plurality of objects, each of the objects residing on separate nodes on the network and acting cooperatively to manage and control the collaborating host in transferring data between the source host and the destination host (col. 5, lines 60-67, col. 6, lines 1-4 and col. 8, lines 37-54).

As per claims **28** and **66**, Templin discloses:

- wherein the network information comprises a reverse flow of packet loss information (col. 2, lines 62-65).

As per claims **34** and **49**, Templin discloses:

- wherein the collaborating hosts each have access to a copy of the data intended for the destination host (col. 4, lines 28-40).

As per claims **35** and **52**, Templin discloses:

- wherein the management object provides all signaling and control at a packet layer (col. 5, lines 55-59).

As per claim **36**, Templin further discloses:

- server extensions (col. 7, lines 42-51).

As per claim **37**, Templin further discloses:

Art Unit: 2157

- dedicated ports (col. 5, lines 60-67 and col. 6, lines 1-4).

As per claim **38**, Templin discloses:

- wherein the source host lies outside the network (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claims **39** and **41**, Templin discloses:

- wherein upper protocol level hand-off is supported by the packet level mechanisms (col. 7, lines 5-31).

As per claim **40**, Templin discloses:

- wherein the communication hand-off further comprises Internet TCP socket hand-off among the hosts (col. 1, lines 31-40, col. 3, lines 65-67 and col. 4, lines 1-9).

As per claim **42**, Templin discloses:

- wherein the collaboration further comprises obtaining source identification information from the source host (col. 7, lines 5-31).

As per claim **43**, Templin discloses wherein the network is the Internet and wherein the source identification information further comprises:

- an identifier (col. 7, lines 5-31); and
- a port identification (col. 7, lines 5-31).

As per claim **44**, Templin discloses:

- wherein the upper level communication is TCP wherein source collaboration includes exchange of sequence and acknowledgement information (col. 1, lines 31-40, col. 3, lines 65-67 and col. 4, lines 1-9).

Art Unit: 2157

As per claim **45**, Templin discloses wherein the management object is executable to facilitate collaboration by obtaining:

- an IP identifier of the source host (col. 7, lines 5-31);
- a port identification of the source host (col. 7, lines 5-31); and
- the data of the source host (col. 7, lines 5-31 and col. 8, lines 37-54).

As per claim **50**, Templin discloses:

- wherein the management object resides on the source host (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claim **51**, Templin discloses:

- wherein the management object resides on the collaborating host (col. 3, lines 65-67 and col. 4, lines 1-9).

As per claim **68**, Templin discloses wherein the step of sending data from a source host to a collaborating host further comprises:

- the step of sending the data from the source host to the collaborating host along a dedicated network resource (col. 8, lines 37-54).

As per claim **69**, Templin discloses wherein the step of sending data to a destination host from the collaborating host further comprises:

- the step of sending the data from the source host to the collaborating host along a dedicated network resource (col. 8, lines 37-54).

As per claim **70**, Templin further discloses:

- wherein the step of storing a copy of the data on the collaborating host (col. 4, lines 28-40).

Art Unit: 2157

As per claim 71, Templin discloses:

- wherein the step of controlling the collaborating host and the source host at a packet layer (col. 5, lines 55-59).

As per claim 72, Templin discloses wherein the step of facilitating collaboration between the source and the collaborating host further comprises obtaining source identification information from the source host by obtaining:

- an IP identifier of the source host (col. 7, lines 5-31);
- a datagram number of the source host (col. 4, lines 10-20 and col. 7, lines 5-31);
- a port identification of the source host (col. 7, lines 5-31); and
- the data of the source host (col. 7, lines 5-31 and col. 8, lines 37-54).

As per claims 27 and 64, Templin discloses:

- wherein the network information comprises ICMP error packets (col. 5, lines 25-33).

As per claims 30 and 67, Templin discloses:

- wherein the network information comprises message buffer status indicators from the destination host (col. 5, lines 25-33).

As per claim 31, Templin discloses:

- wherein the network uses a multicast messaging system (col. 8, lines 37-54).

As per claim 32, Templin discloses:

- wherein the network uses an anycast messaging system (col. 8, lines 37-54).

As per claim 33, Templin discloses:

- wherein the network uses a broadcast messaging system (col. 8, lines 37-54).

Art Unit: 2157

3. Claims 17-23, 29, 57-63 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templin in view of Brendek et al (hereinafter, "Brendel", 5,774,660).

As per claims 17, 29, 57 and 65, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the need is to avoid network congestion.

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

- wherein the need is to avoid network congestion (abstract, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention as made to modify Templin by transmitting data directly between the hosts in order to avoid network bottlenecks because this would provide less traffic congestion on the network, thereby allowing hosts to exchange information over a network with being delayed.

As per claims 18 and 58, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the need is to provide load balancing.

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

- wherein the need is to provide load balancing (abstract, col. 9, lines 30-40, lines 52-67 and col. 10, lines 1-6).

Art Unit: 2157

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Templin by including a load balancer in order to keep track of requests being processed by a server because this would the load balancer to balance the load of the requests among the server, thereby improving the traffic on a network.

As per claims **19** and **60**, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the load balancing further comprises balancing CPU usage.

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

- wherein the load balancing further comprises balancing CPU usage (abstract, col. 9, lines 30-40, lines 52-67 and col. 10, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Templin by including a load balancer in order to keep track of requests being processed by a server because this would the load balancer to balance the load of the requests among the server, thereby improving the traffic on a network.

As per claims **20** and **61**, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the load balancing further comprises balancing memory usage.

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

Art Unit: 2157

- wherein the load balancing further comprises balancing memory usage (abstract, col. 9, lines 30-40, lines 52-67 and col. 10, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Templin by including a load balancer in order to keep track of requests being processed by a server because this would the load balancer to balance the load of the requests among the server, thereby improving the traffic on a network.

As per claims **21** and **62**, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly disclose:

- wherein the load balancing further comprises balancing disk space usage.

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

- wherein the load balancing further comprises balancing disk space usage (abstract, col. 9, lines 30-40, lines 52-67 and col. 10, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Templin by including a load balancer in order to keep track of requests being processed by a server because this would the load balancer to balance the load of the requests among the server, thereby improving the traffic on a network.

As per claims **22** and **63**, Templin discloses the invention substantially as claims discussed above.

However, Templin does not explicitly discloses:

- wherein the load balancing further comprises balancing host bandwidth.

Art Unit: 2157

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

- wherein the load balancing further comprises balancing host bandwidth (abstract, col. 9, lines 30-40, lines 52-67 and col. 10, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Templin by including a load balancer in order to keep track of requests being processed by a server because this would the load balancer to balance the load of the requests among the server, thereby improving the traffic on a network.

As per claims **23** and **59**, Templin discloses the invention substantially as claims discussed above:

However, Templin does not explicitly discloses:

- wherein the load balancing further comprises balancing server loading.

Brendel discloses a world-wide-web server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network including:

- wherein the load balancing further comprises balancing server loading (abstract, col. 9, lines 30-40, lines 52-67 and col. 10, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Templin by including a load balancer in order to keep track of requests being processed by a server because this would the load balancer to balance the load of the requests among the server, thereby improving the traffic on a network.

Response to Arguments

4. Applicant's arguments filed October 4, 2004 have been fully considered but they are not persuasive.

The Office notes the following arguments:

- a. Templin fails to disclose the claimed management object.
- b. Templin fails to disclose the collaborating host.
- c. There is no suggestion in Templin to make the destination host believe the data is from the source host.

In response to:

- a. Templin does not explicitly disclose a management object. However, Templin discloses control block entries (col. 7, lines 5-6) in which it would have been obvious to use the management object instead of control block entries because doing so would provide the same functionality of providing network connection information.
- (b)-(c). Templin does not explicitly disclose a collaborating host. However, Templin discloses a gateway that acts as a collaborating host between Host A (source host) and Host C (destination host). The gateway intercepts the packet from Host A to send to Host C. Host C is spoofed into believing that it is communicating with Host A (col. 8, lines 37-54) (spoofing is supported by Applicant's specification on page 3, paragraph 3 and page 5, paragraph 2). Therefore, Templin does disclose a collaborating host that makes the destination host believe the data is from the source host.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShonda T. Jacobs whose telephone number is 703-305-7494. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2157

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShonda T. Jacobs
Examiner
Art Unit 2157

ltj
February 15, 2005


ARIE ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100